

NOAA

Electronic Navigational Charts

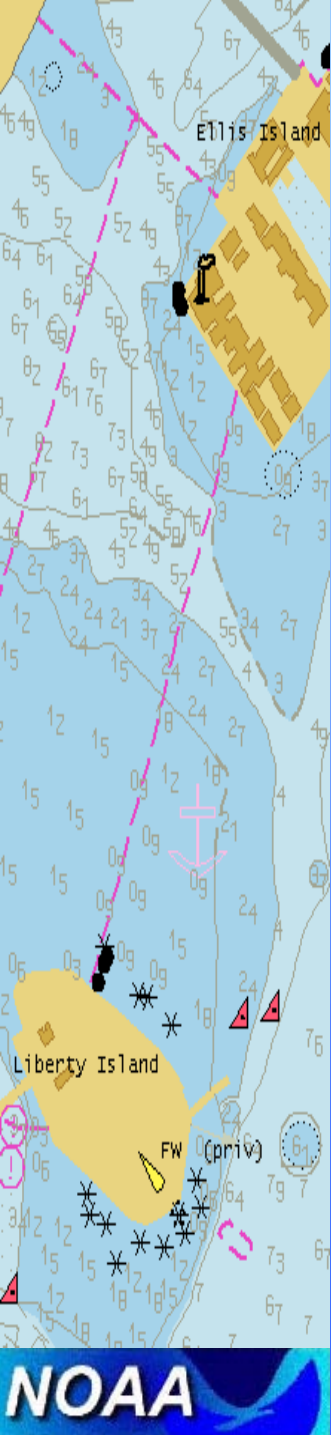
National Ocean Service
Office of Coast Survey
Presented November 14, 2001

Mike Brown
ENC Technical Manager
Mike.Brown@noaa.gov
301-713-2712 x 153



Nautical Charting Products

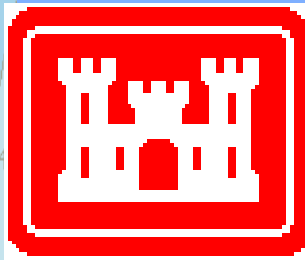
- Suite of 1000 paper charts
- Print on Demand charts
- Raster Charts and Update Service
- Electronic Navigational Charts (NOAA ENC's)



Major Federal Agencies Involved in Charting Activities in Coastal U.S.



10,000 Local Notice
to Mariners

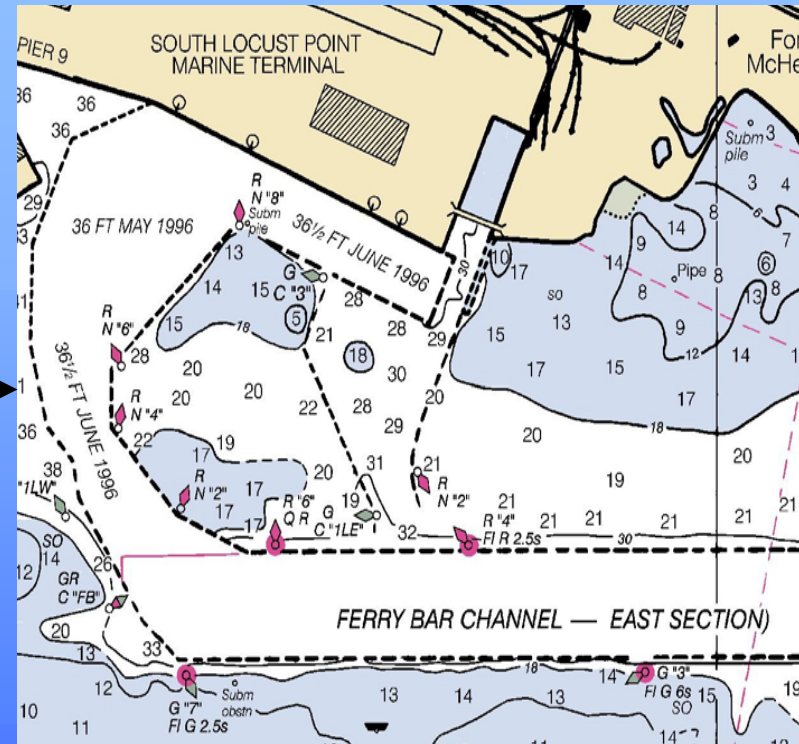


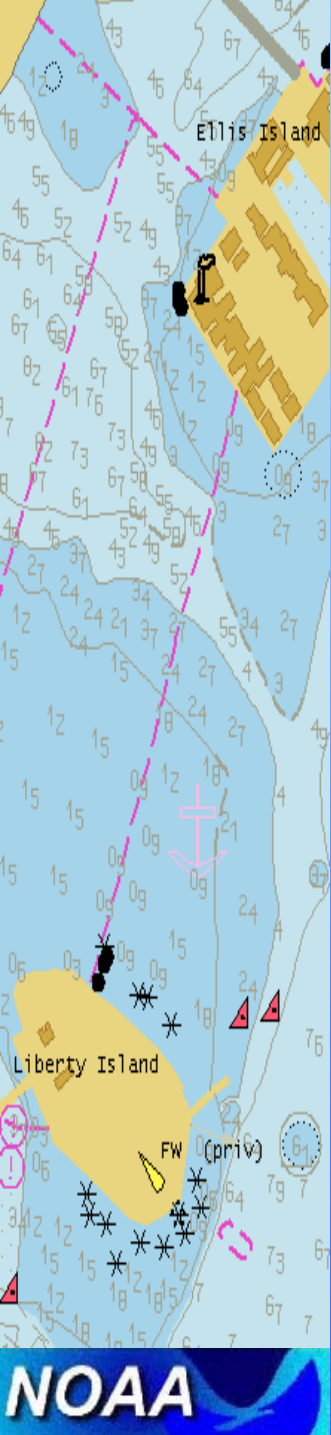
15,000
documents



Others:

NOAA field
units, EPA,
USGS

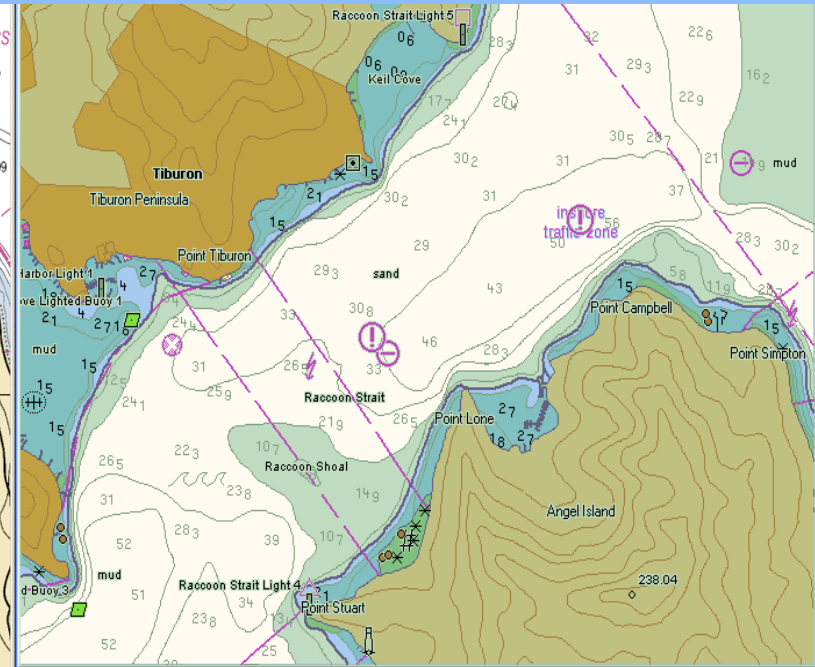
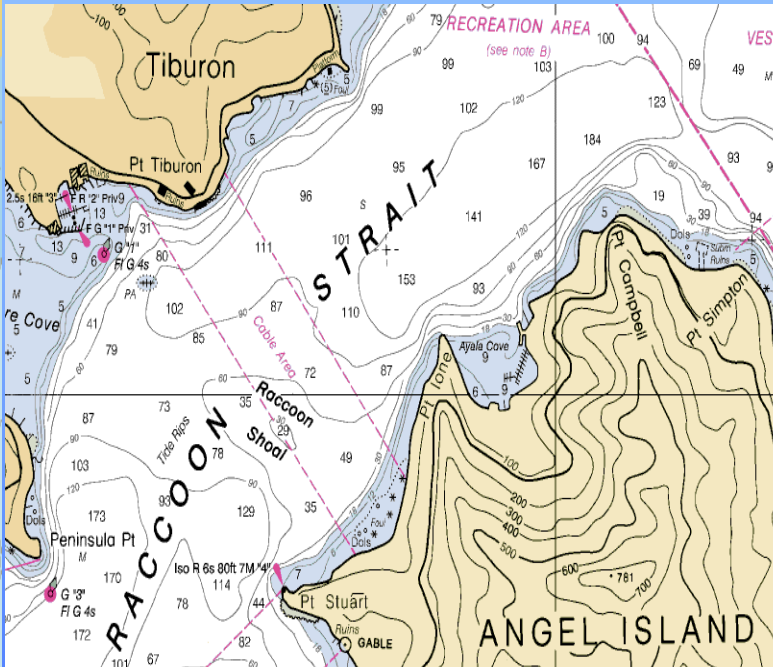
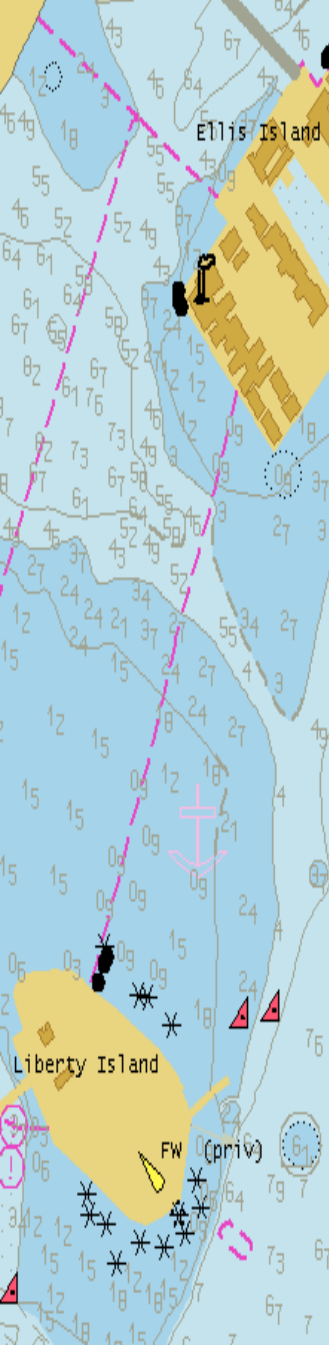




What is a NOAA ENC?

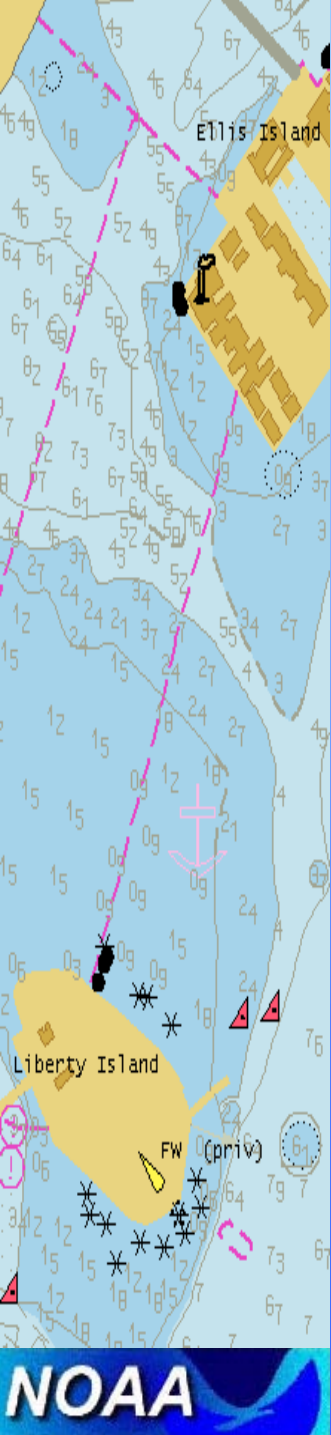
- Electronic Navigational Chart – a special type of vector chart
- A database of chart features
- Produced using the International Hydrographic Organization S-57 Standard and Product Specification
- User can display selected layers like GIS

Raster / Vector



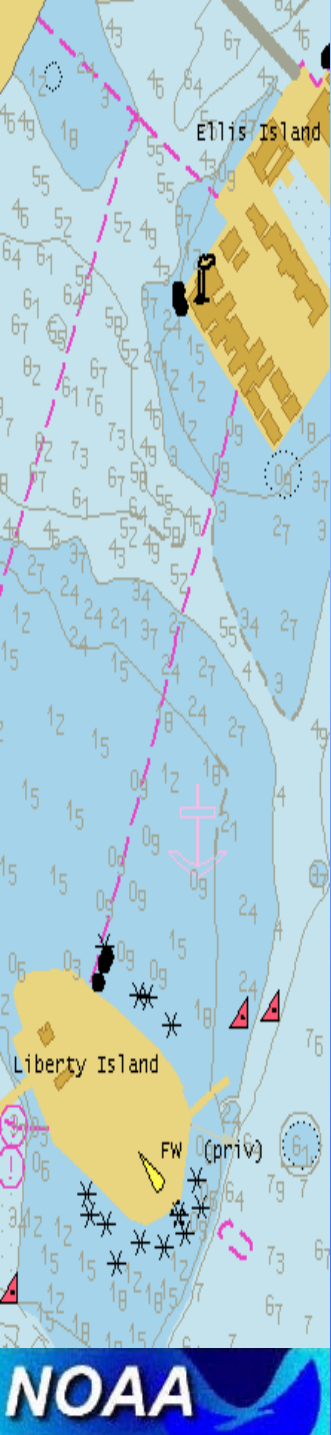
A digital picture.....A geo-referenced database

Electronic Charts now allow us to zoom into information that was collected and compiled with these techniques...



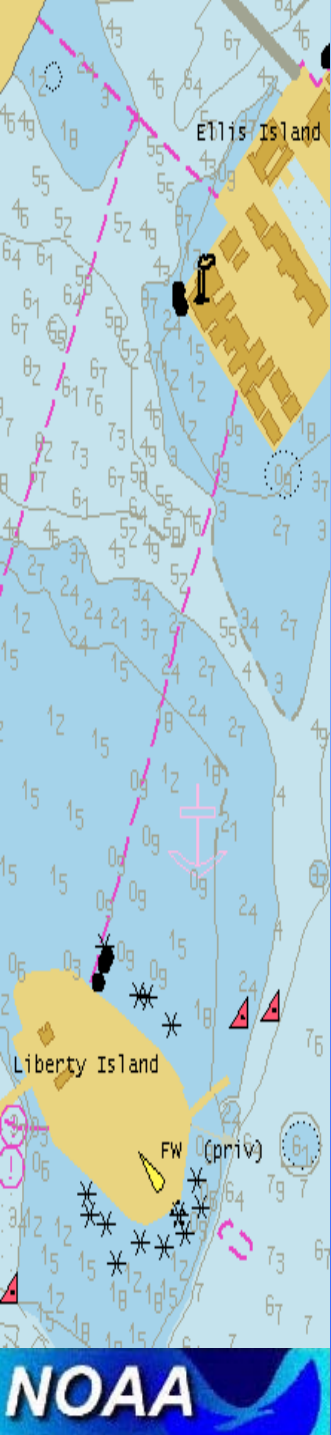
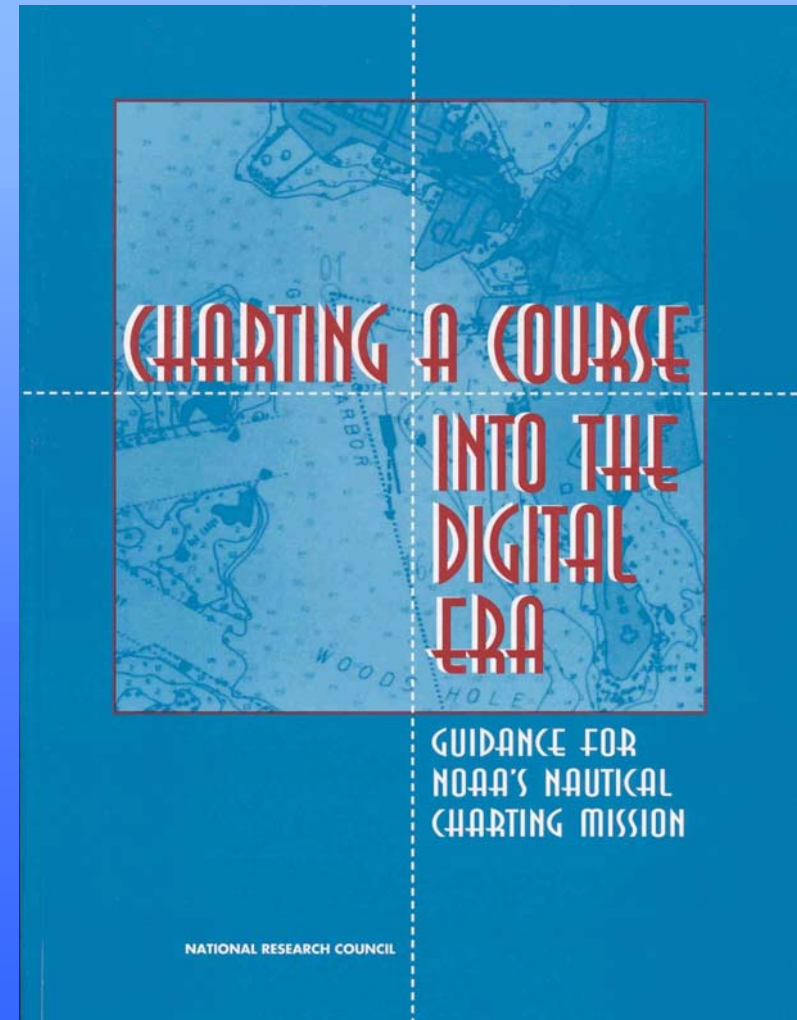
The NOAA ENC

- Incorporates information directly from chart source
- Maintained for chart source by direct application without scale generalization
- Critical content checked against raster/paper chart



National Research Council Report

- “Development, maintenance, certification, quality control, and evolution of a single digital nautical data base should be NOAA’s core mission in nautical charting ...”





NOAA ENC Customers

- Navigation community
 - ECDIS
 - ECS
 - AIS
- Port management
- Coastal zone management
 - GIS

Navigation

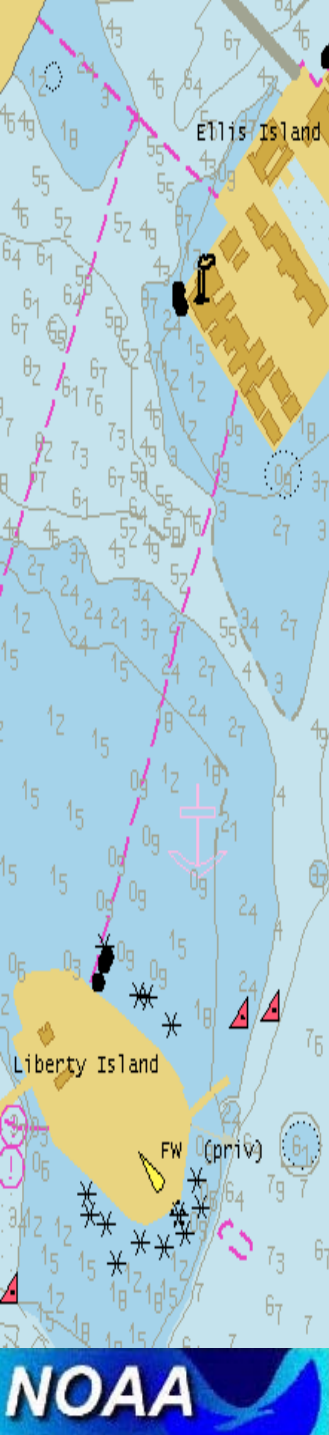
ECS



ECDIS



Port Management



San Diego Marine Information Systems - Interactive Chart - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print View Source Help

Address <http://www.sdmis.org/chart/> Go Links >>

Port of San Diego San Diego Bay's Source for Marine Information

SDMIS
San Diego Marine Information System

EMERGENCY CONTACTS

- Interactive Chart
- View San Diego Bay
- Maritime Information
- Winds, Currents & Tide
- Vessel Schedules
- Site Map

San Diego Marine Information Systems - Interactive Chart - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print View Source Help

Address <http://www.sdmis.org/chart/chartpop.html> Go Links >>

Latitude/Longitude:

Range (Miles):

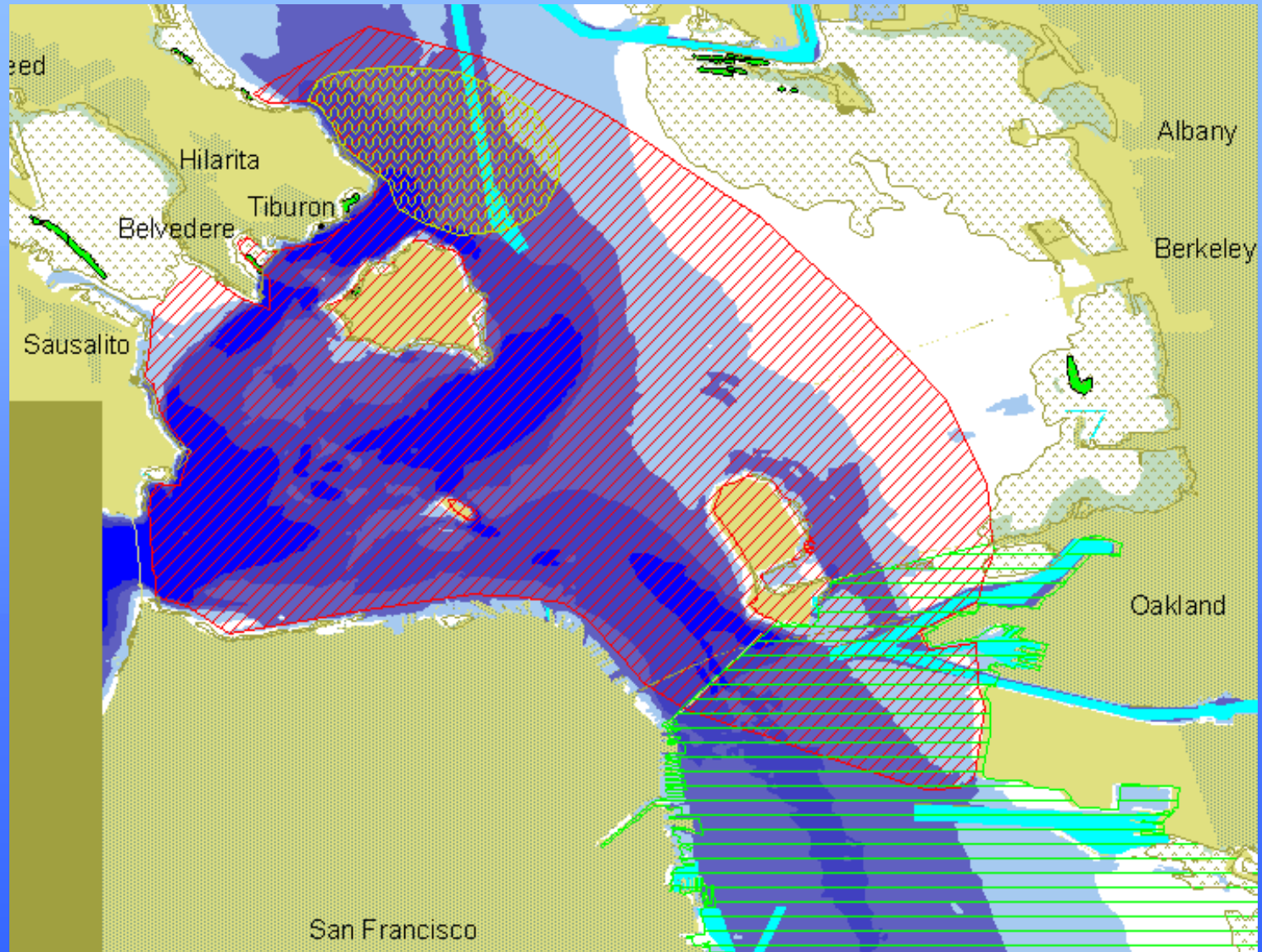
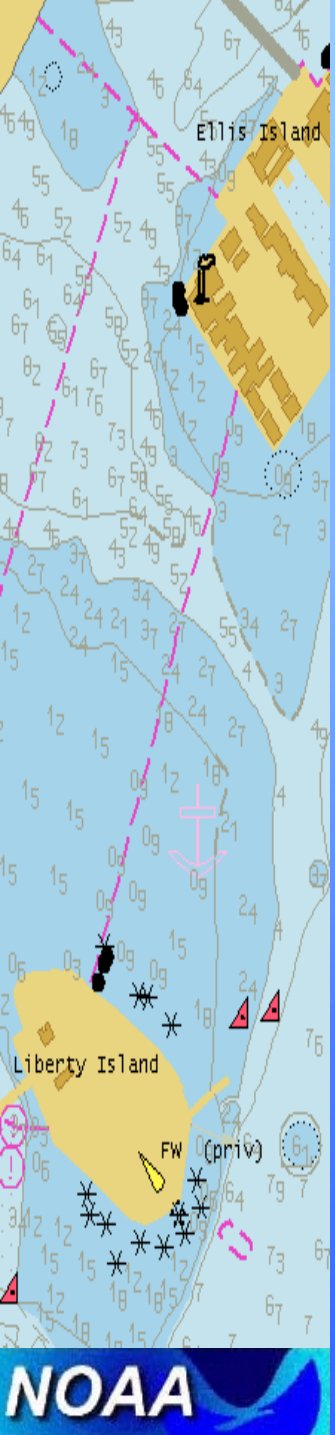
Size:

Display: ☐ Base ☒ Standard ☐ All

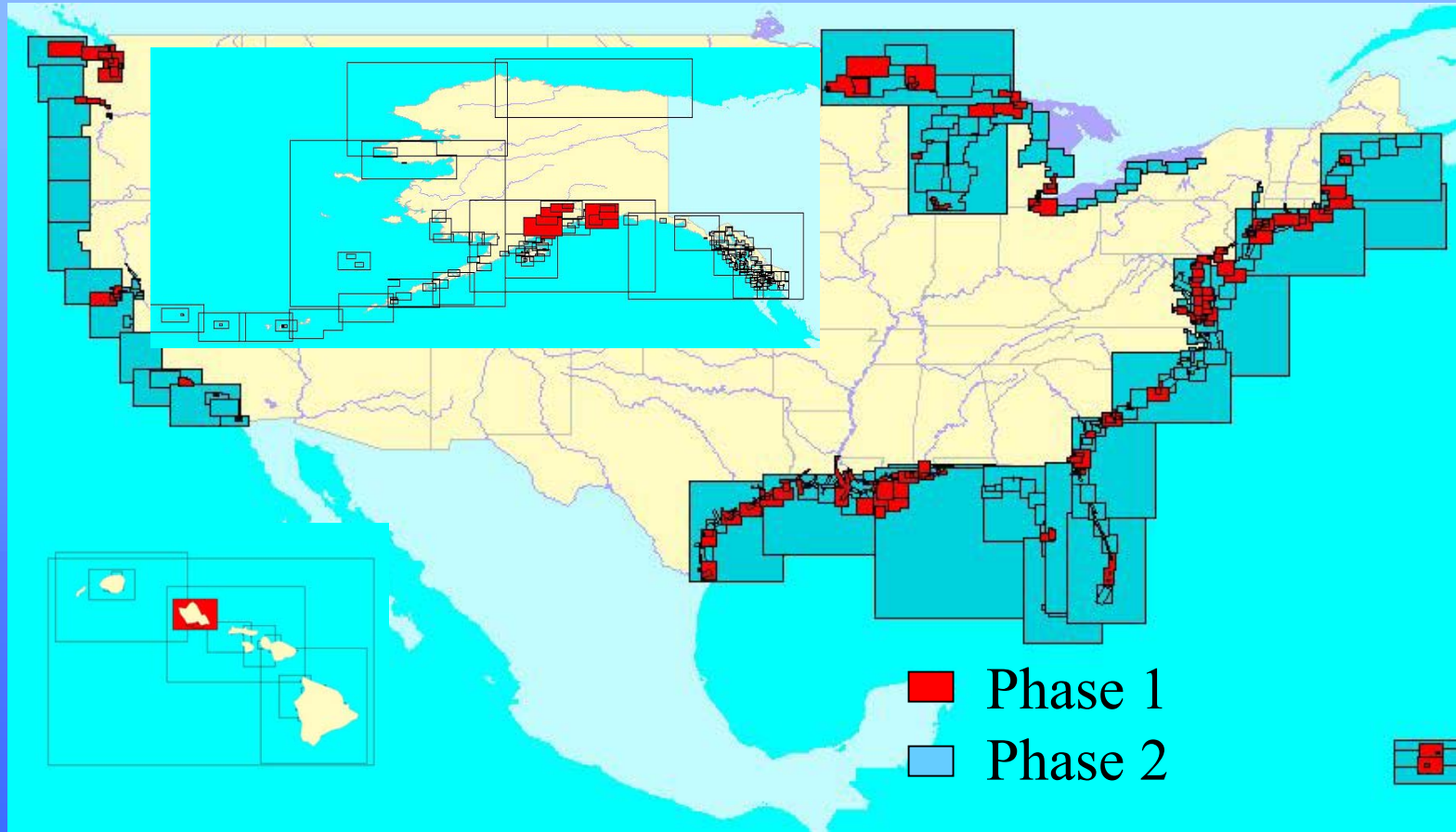
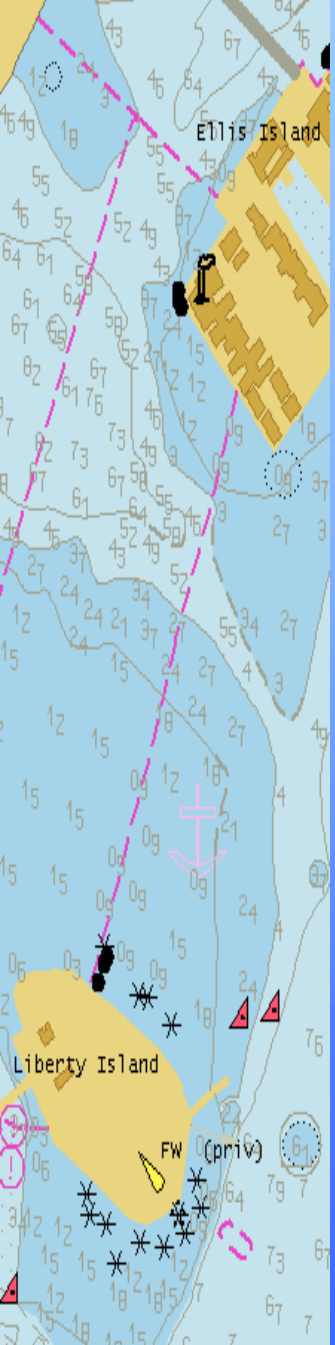
View:

A zoomed-in view of a nautical chart from the SDMIS website, showing a detailed map of a harbor area with various navigational markers, depth soundings, and a red buoy. The map is displayed within a web browser window.

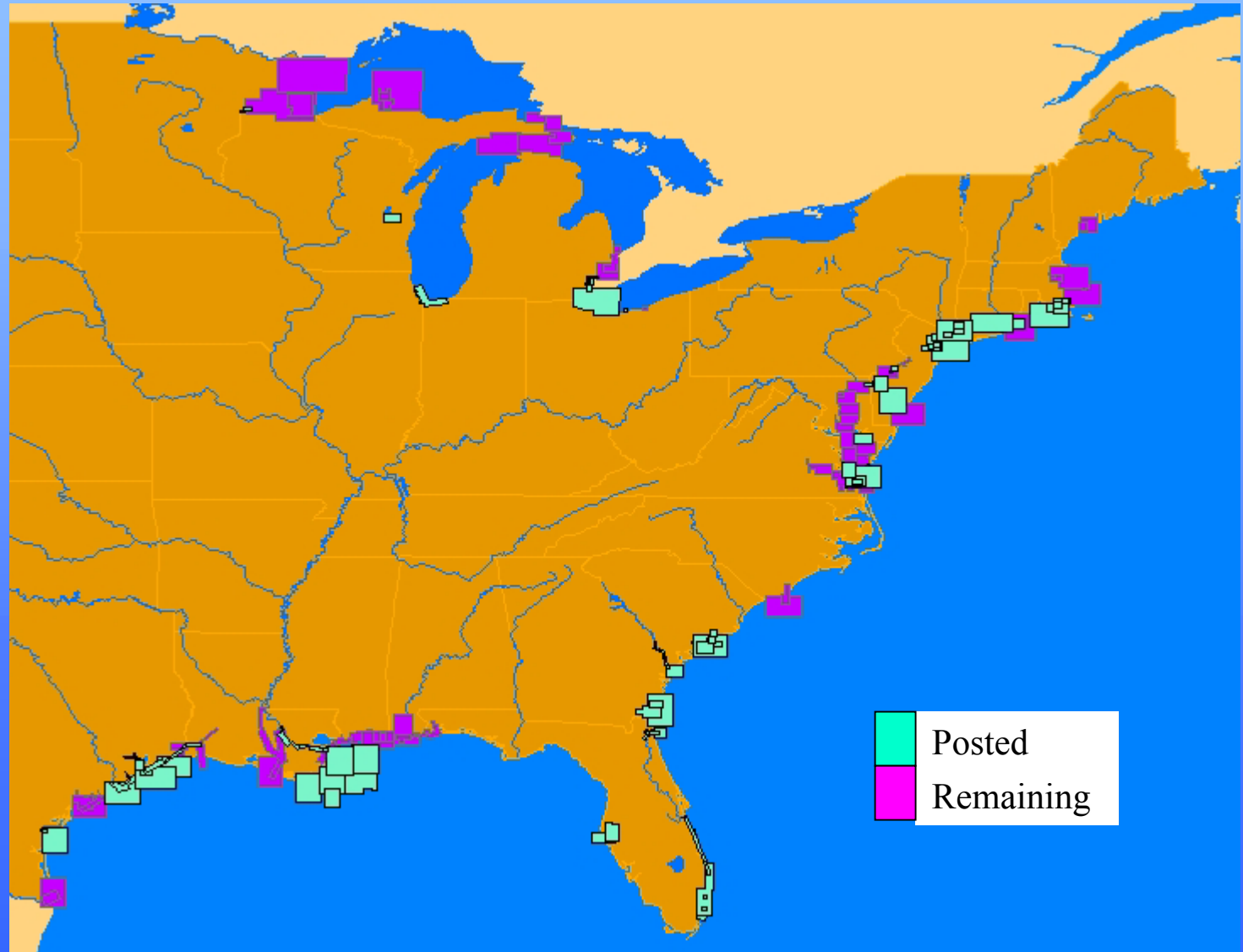
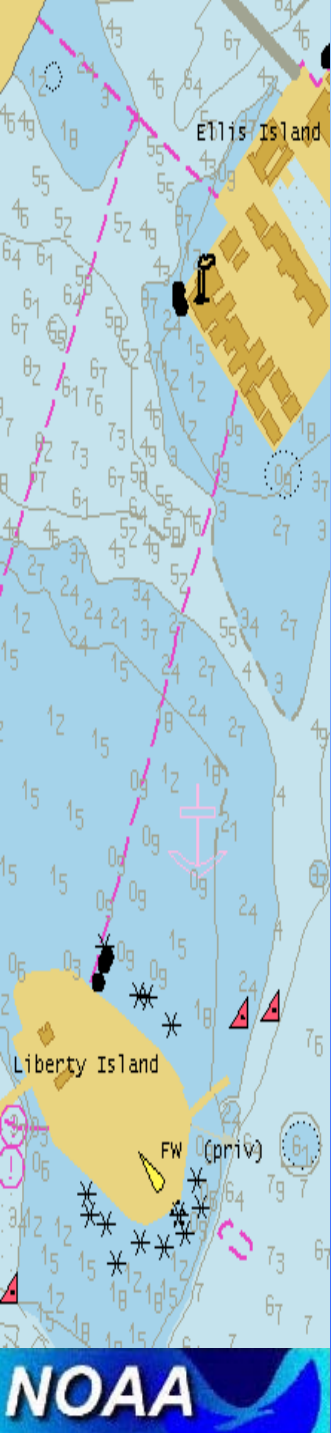
GIS Applications



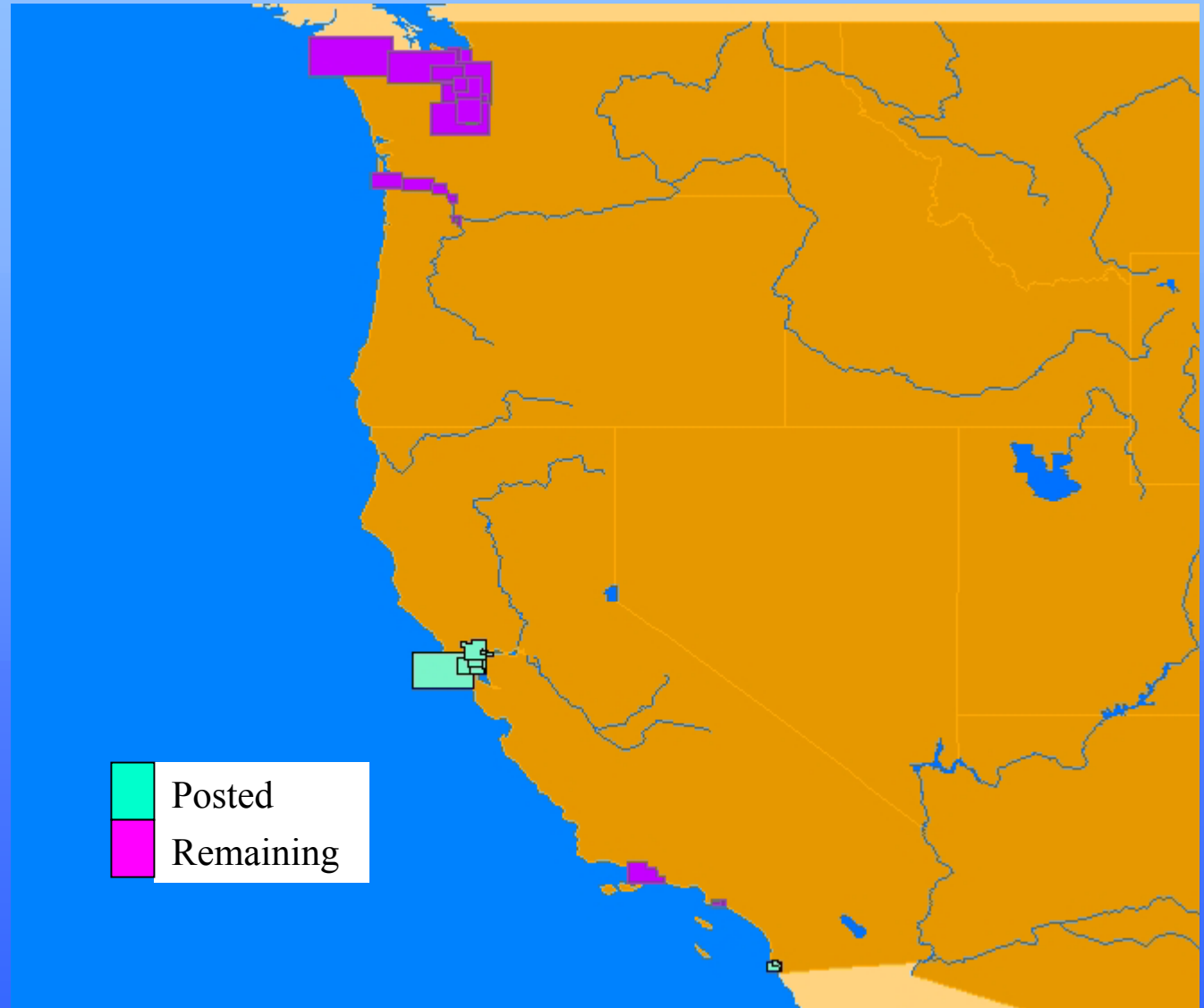
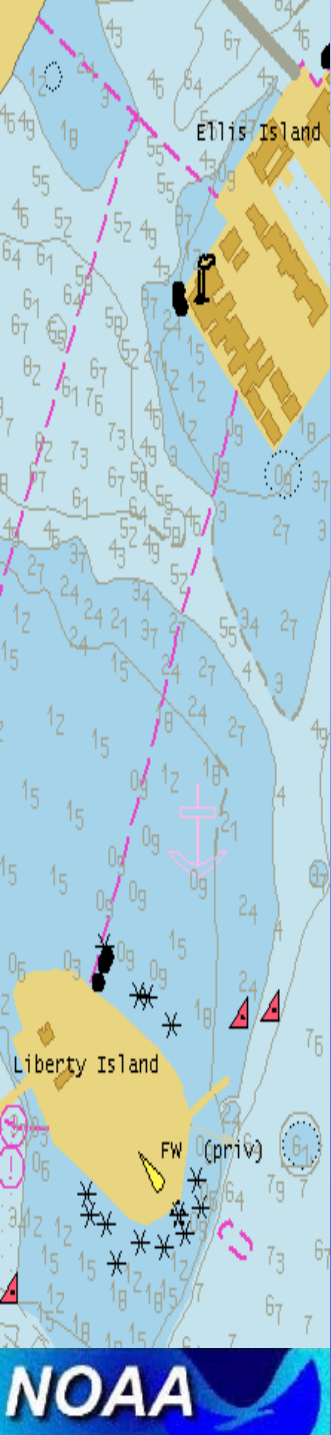
Planned NOAA ENC Coverage



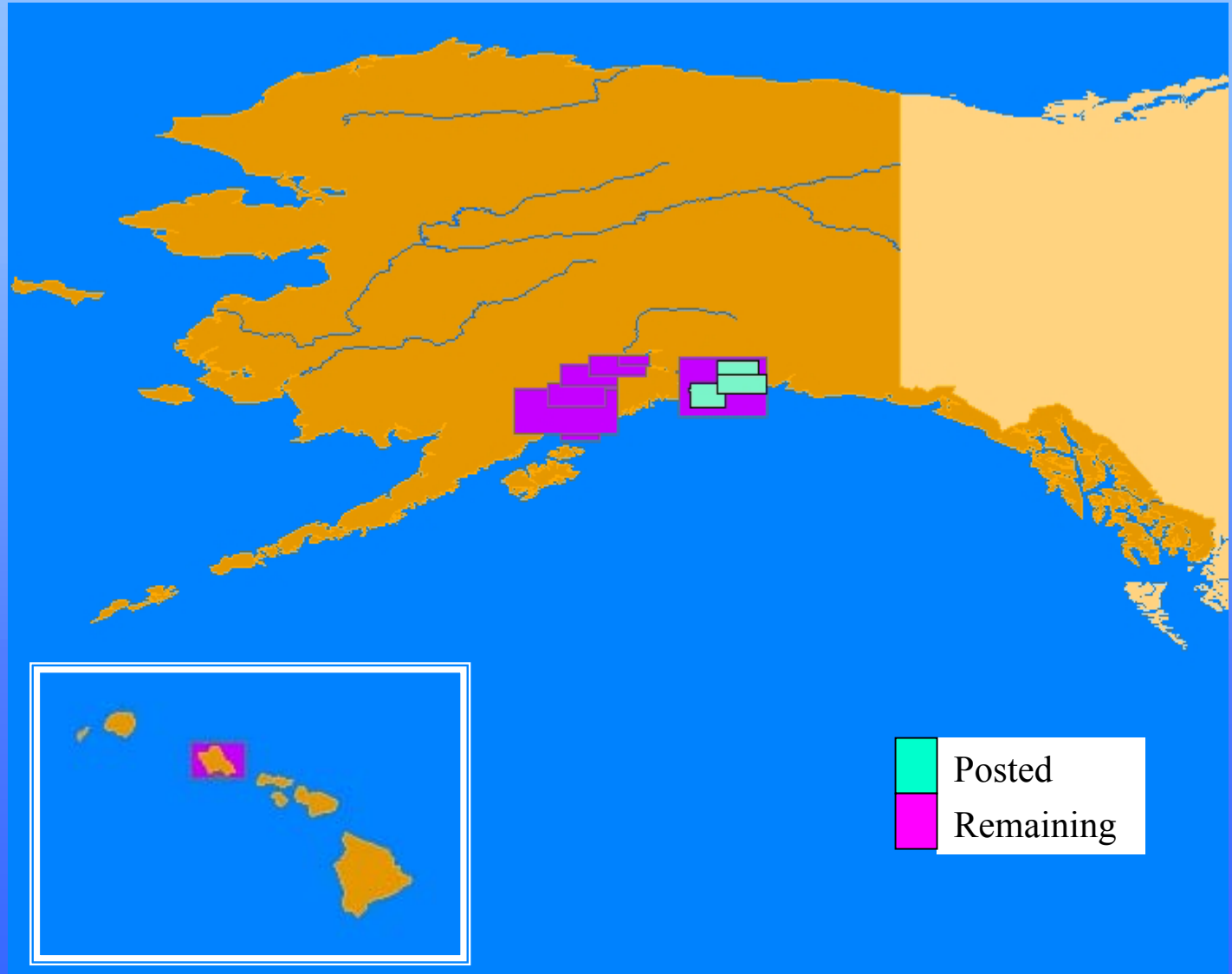
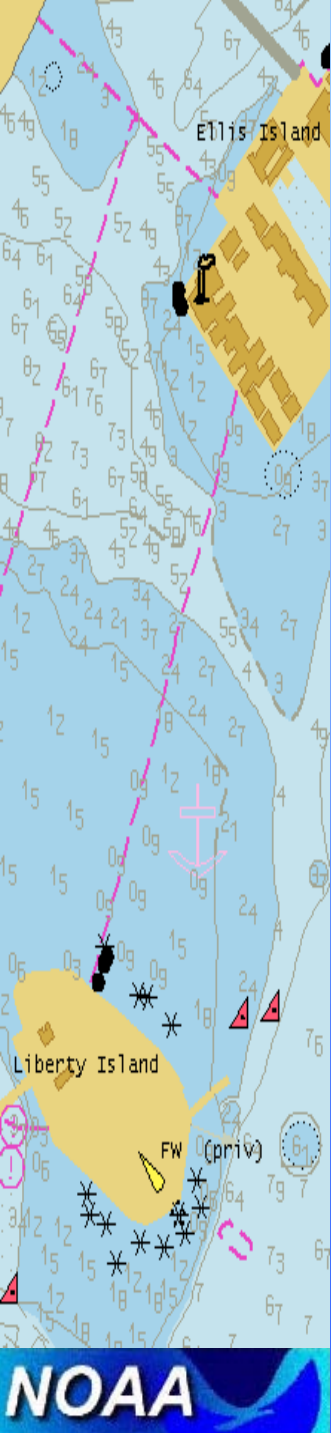
NOAA ENC Coverage

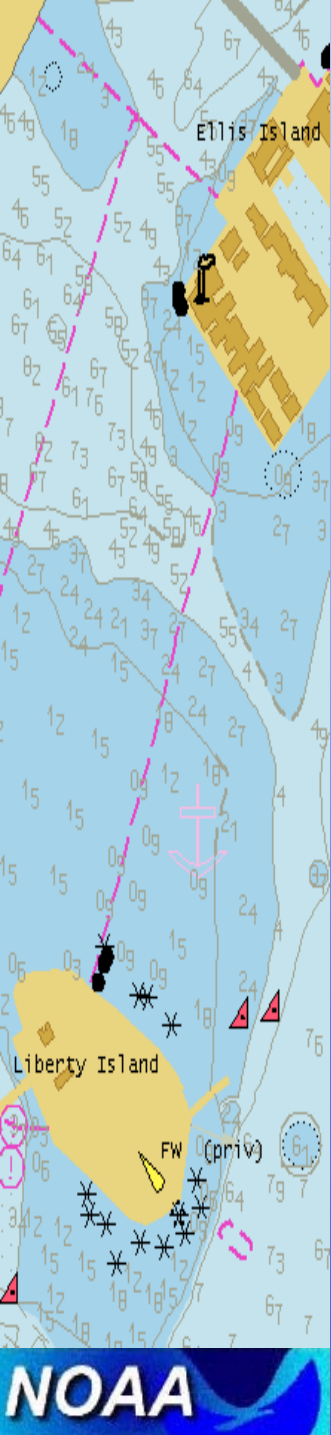


NOAA ENC Coverage



NOAA ENC Coverage



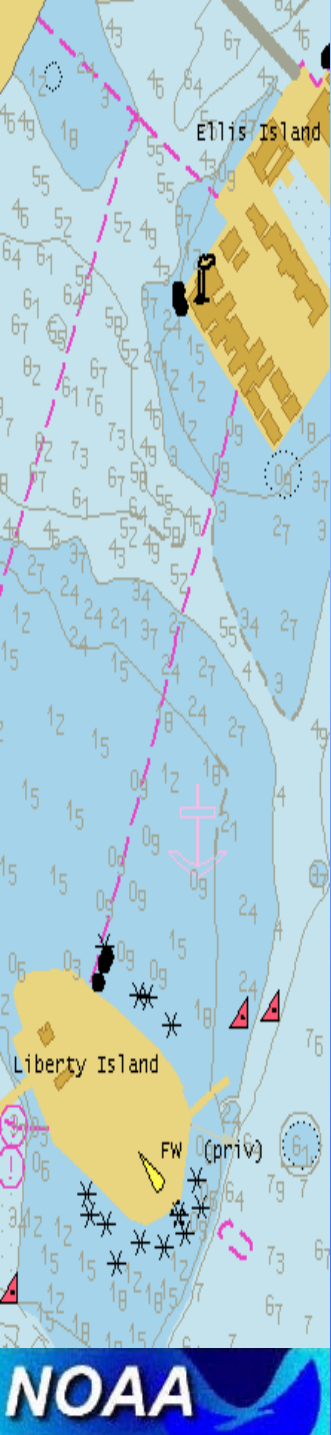


Port Areas Currently Posted

- Baltimore
- Boston
- Brunswick
- Charleston
- Corpus Christi
- Detroit
- Duluth/Superior
- Houston
- Jacksonville
- Lorain
- Norfolk
- Philadelphia
- Port Everglades
- Port of NY/NJ
- Port of South Louisiana
- Richmond, CA
- San Diego
- Savannah
- Tampa
- Valdez

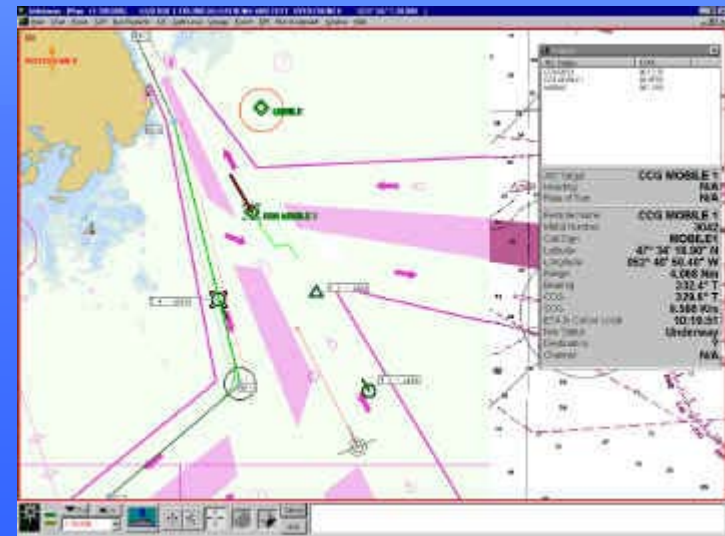
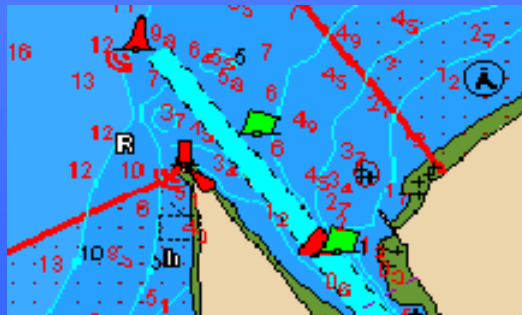
Distribution

- Widest possible distribution
- Available to non-navigational community
- Format is established and open
- Aligns with other Federal agencies
- NOAA ENC is the first of our databases that we are considering releasing



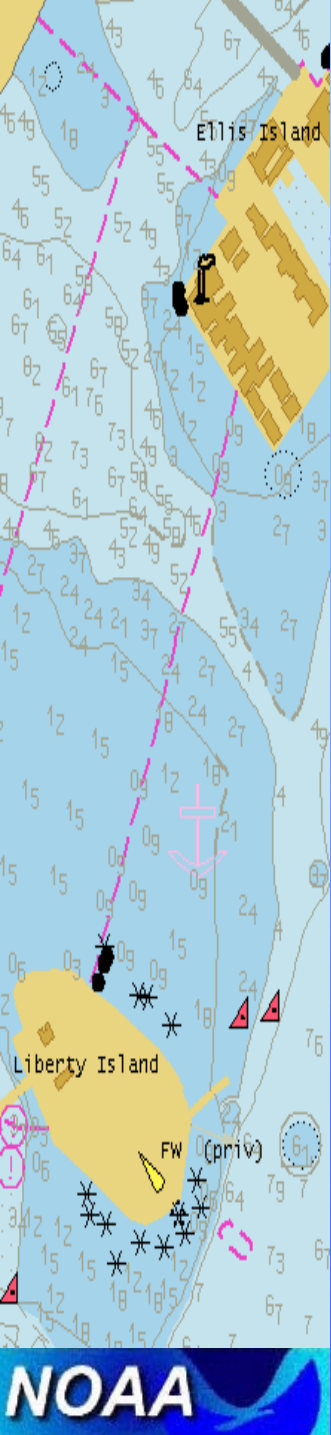
Distribution

- No restrictions on use of data
- Allows for maximum free-market evolution of products
- 34,000 Downloads since Mid-July



NOAA ENC Web Site

- chartmaker.ncd.noaa.gov/mcd/enc/index.htm
- Downloads have been available since July 16, 2001




NOAA ENC Web Site

Office of Coast Survey - NOAA Electronic Navigational Charts - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print View Source

Address <http://chartmaker.ncd.noaa.gov/mcd/enc/index.htm> Go Links



About Us

What's New?

Nautical Charts and Related Publications

Critical Corrections

Wrecks and Obstructions

Navigation Services

Hydrographic Surveys

Historic Maps and Charts

Research and Development

Sales Information

Library

FAQs

Contact Us

Home

Office of Coast Survey


NOAA Electronic Navigational Charts (NOAA ENCs)

[NOAA ENC Overview](#)[Download NOAA ENCs](#)[Production Schedule](#)[News, Events and Other Information](#)

[FAQ](#)[Resources](#)

Overview

The Office of Coast Survey (OCS) has been involved in the development of a NOAA Electronic Navigational Chart (NOAA ENC) suite to support the marine transportation infrastructure and coastal management for a number of years. The NOAA ENC will support all types of marine navigation by providing the official database for electronic charting systems (ECS), including the Electronic Chart Display and Information System (ECDIS). NOAA ENCs support real-time navigation as well as collision and grounding avoidance needs of the mariner, and accommodate a real-time tide and current display capability that is essential for large vessel navigation. NOAA ENCs will also provide fully integrated vector base maps for use in geographic information systems (GIS) that are used for coastal management or other purposes. The NOAA ENCs are in the International Hydrographic Office (IHO) S-57 international



NOAA Electronic Navigational Chart


NOAA ENC Web Site

Office of Coast Survey - Electronic Navigational Charts, Resources - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print View Source

Address <http://chartmaker.ncd.noaa.gov/mcd/enc/resource.htm> Go Links

 **Office of Coast Survey**

NOAA Electronic Navigational Charts (NOAA ENCs)

NOAA ENC Overview	Download NOAA ENCs	Production Schedule	News, Events and Other Information
FAQ		Resources	

Resources

The following corporations/organizations offer a number of charting related products that may provide useful important information. This listing is provided as a public service for information only and neither the Office of Coast Survey nor the Government endorse any of the products or services provided by these corporations/organizations.

Free ENC Viewers

- Several ENC viewers are available for free and can be accessed at this link: <http://www.openecdis.org/freeware/index.html>

Navigation Systems that use ENCs

- International Communications and Navigation Ltd. <http://ican.nf.net/>
- Kelvin Hughes <http://www.kelvinhughes.com/prod/index.htm>
- Litton Marine Systems <http://www.sperry-marine.com/products/chartmaster.html>
- Navintra <http://www.navintra.fi/index.html>

Left Sidebar Navigation:

- About Us
- What's New?
- Nautical Charts and Related Publications
- Critical Corrections
- Wrecks and Obstructions
- Navigation Services
- Hydrographic Surveys
- Historic Maps and Charts
- Research and Development
- Sales Information
- Library
- FAQs
- Contact Us
- Home

NOAA


NOAA ENC Web Site

ENC Downloads - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print View Source View Image

Address <http://ocsdta.ncd.noaa.gov/encdistribution/download.asp> Go Links

 **NOAA Electronic Navigational Charts (NOAA ENCs)**

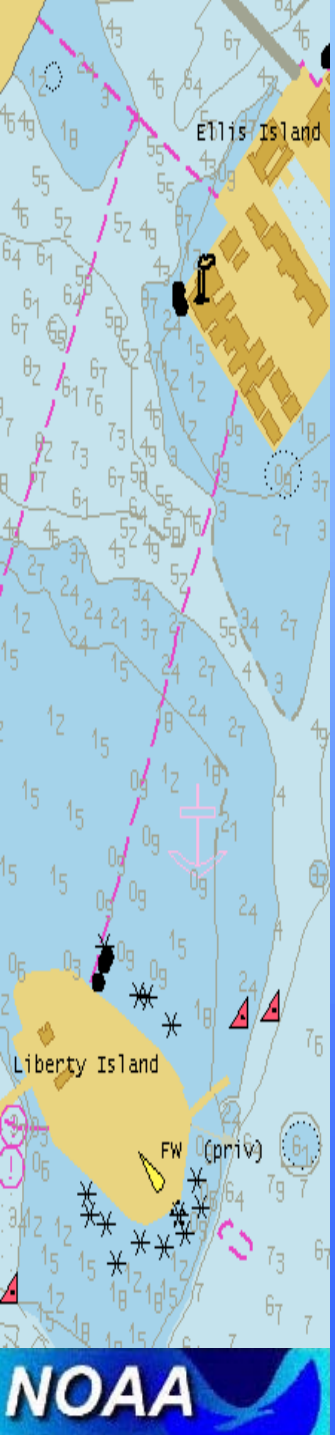
NOAA ENC Downloads [Sort By Chart](#) [Sort By Date](#)

[Download WINZIP.EXE](#) [Back to DISCLAIMER](#) [Download Selected NOAA ENCs](#)

Note: File name is randomly generated

Port Name	Chart	Title	Version	Date	File Size	Cell Name	Download
Corpus Christi	11307	Aransas Pass To Baffin Bay	2	9/19/01 9:00:07 AM	0.24	US4TX21M	<input type="checkbox"/>
Corpus Christi	11311	Corpus Christi Harbor	2	9/20/01 3:15:00 PM	0.31	US5TX23M	<input type="checkbox"/>
Houston	11321	San Luis Pass To East Matagorda Bay	2	10/11/01 9:35:46 AM	0.18	US4TX41M	<input type="checkbox"/>
Houston	11322	Drum Bay To Galveston Bay	2	7/11/01 2:40:30 PM	0.44	US5TX51M	<input type="checkbox"/>
Houston	11323	Approaches To Galveston Bay	1	7/11/01 2:41:41 PM	0.1	US4TX52M	<input type="checkbox"/>
Houston	11324	Galveston Bay Entrance Galveston & Texas City Hbrs	1	7/11/01 2:42:59 PM	0.36	US5TX53M	<input type="checkbox"/>
Houston	11325	Houston Ship Channel Carpenter Bayou To Houston	1	7/11/01 2:43:51 PM	0.13	US5TX57M	<input type="checkbox"/>
Houston	11327	Upper Galveston Bay	1	7/11/01 2:45:35 PM	0.34	US5TX54M	<input type="checkbox"/>
Houston	11328	Houston Ship Channel	1	7/11/01 2:46:52 PM	0.14	US5TX55M	<input type="checkbox"/>
Houston	11329	Houston Ship Channel Alexander Island To	1	7/11/01 2:48:11 PM	0.13	US5TX56M	<input type="checkbox"/>

Done Internet



Questions

Mike Brown

ENC Technical Manager

Mike.Brown@noaa.gov

301-713-2712 x 153